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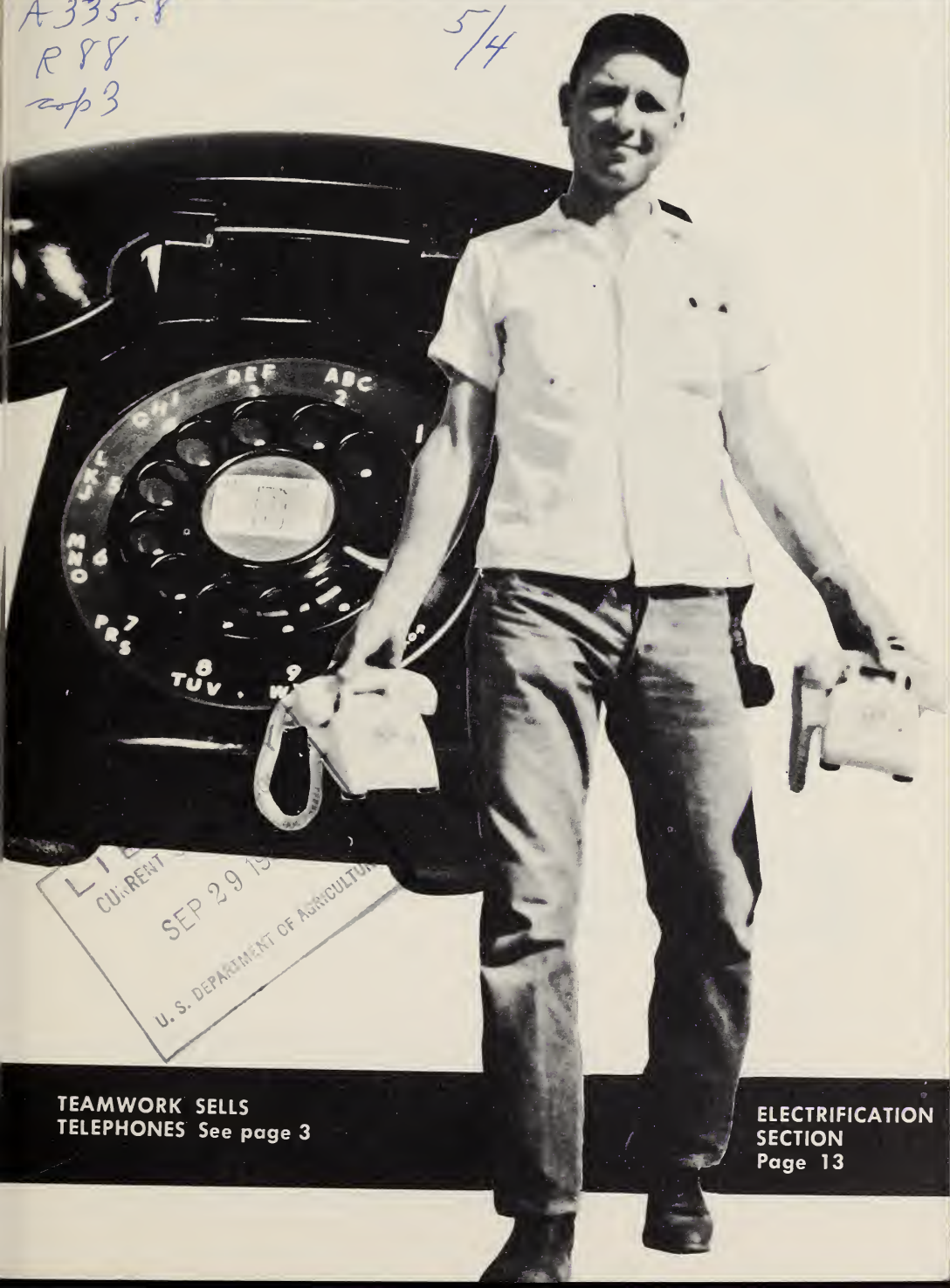
# Rural Lines

RURAL ELECTRIFICATION ADMINISTRATION • U. S. DEPARTMENT OF AGRICULTURE

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## *A Message from the*

# ADMINISTRATOR

**I**N Indiana, 17 telephone companies and cooperatives financed by REA have worked out a system for helping one another when storms or floods put any of their facilities out of commission. If a borrower suffers damage, he gets in touch with a chairman in his part of the State, who in turn notifies all nearby telephone systems. They supply the disaster victim with skilled men and suitable equipment at cost to help him repair his lines and restore subscriber service promptly.

This month, RURAL LINES tells how companies and co-ops in Tennessee came to the rescue of a borrower who had run into a streak of bad luck at cutover time. Linemen from co-ops and companies worked together to cut over the exchange in a day's time.

Many REA-financed telephone systems are small, and disaster can be crippling. I am pleased to see that so many borrowers are voluntarily working out ways to help neighbors who have had luck.

But actions like these in Indiana and Tennessee mean something more than neighborliness. They stem from a growing dedication to the principle of quality service for all rural subscribers—no matter who serves them. More than miles of line constructed, more than new stations served, this dedication is the real measure of the strength of the rural telephone industry.

## *Rural Lines*

*Administrator.*

### THIS MONTH'S COVER

Friendly Bill Hampton, lineman and goodwill ambassador for the West Texas Rural Telephone Cooperative, at Hereford, helped his co-op make enough sales to avoid a rate increase. The story on the next page tells how Hampton and three fellow employees managed to do it.



# CRAZY

## Arithmetic?

4 \* 60 = 107



**I**T'S a winning formula when 4 people in 60 days can make 107 telephone sales, including 82 new applications for membership and service.

That happened when employees of the West Texas Rural Telephone Cooperative at Hereford got the idea they could sell telephones and worked as a team to boost their co-op's revenue. The campaign also produced these results:

- The \$6,000 in added annual revenue helped to head off an increase in subscriber rates.
- The co-op acquired its 1,000th subscriber and boosted membership nine percent—nearly three

West Texas employees (from left) W. O. Riddle, Louise Bogle, George Stambaugh, and Bill Hampton hold applications from the 82 new subscribers they signed. The table display represents sales to present subscribers.

times the previous year's growth.

Two events helped set the stage for the successful sales campaign.

First was the decision reached at the annual meeting to lower the membership fee from \$50 to \$10 for new subscribers. This removed a roadblock for tenant farmers and others who were not sure they were permanent residents of the area.

The second was the decision by management to hold a sales training session for employees.

## Ralph J. Foreman Named REA Deputy Administrator

**R**ALPH J. FOREMAN has been named REA deputy administrator by Administrator David A. Hamil. A career employee, Foreman succeeds Fred H. Strong, who resigned July 11.

The new deputy joined REA as a field representative in 1949. Later he was section head in the old Management Division and assistant director and director of the Northeast Electric Area Office. When appointed deputy, he was special assistant for power supply in the office of the Administrator.

From 1946 to 1949, Foreman was manager of the Southeastern Michigan Rural Electric Cooperative, Adrian, Mich. Earlier, he was groundman, lineman, serviceman, engineer, and district manager for the Central Illinois Electric and Gas Company.





**Bill Hampton signs up prospect he met along road. Installers had to quit selling to handle work orders that piled up!**



**Louise Bogle enrolls office visitor, Mrs. Billy Bell, who lives**

This combination put the 4 employees—2 in the office and 2 outside men—in the mood to sell. And sell they did!

George Stambaugh, assistant manager, set the pace by making 65 sales, which will produce \$4,005 in annual revenue. He even sold a poolside extension to a farmer. George contacted many of his prospects when he found them in Hereford on business. He left the office visitors to Cashier Louise Bogle.



**The S. L. Garrison family signed up for the co-op's 1000th rural telephone. West Texas gave them a free 5-minute call to anyplace in the Nation.**

Bill Hampton and Ogie Riddle, outside men, interspersed visits to nonsubscriber homes with regular service calls, and they rang up a good score in the first few weeks. Then they had to concentrate on the flood of installation orders lest a long wait discourage the new subscribers.

Manager Leo Forrest is working on a plan to get his installers back on the selling job. What he has in mind are incentive payments for sales made on Saturday and other off-duty days.

New subscribers are important to West Texas Rural Telephone Co-op. With its service area entirely in open country, investment is \$1000 for each existing subscriber. But new subscribers can be handled on an additional investment of about \$350.

After the board of directors backed the plan, Board President Harold Carpenter did even more. To set a good example, he signed up five applicants right after the board meeting.

Manager Forrest reports that his employees predicted they could sign up 64 new applicants



near Friona, Texas,  
as 10th new sub-  
scriber of the week.



Suzanne Huston, Manager Forrest's secretary,  
changes sales total on the scoreboard she designed.  
The four kept her busy.

in 60 days, but nearly reached this goal the first month.

He tells several stories about how employees used their head to close sales. One couple said they would wait "a little while." George Stambaugh told them that installations were running three weeks behind. As it happened, the couple wanted their phone in

10 days. Bill Hampton turned "we'll wait" to "sign me up now" by pointing out that they might have to wait six months if they put it off until after the contractor finished work then under way.

The May-June success has convinced Forrest that his group will do even better at harvest time.

## J. K. O'Shaughnessy Dies; Had Retired Last September

J. K. O'Shaughnessy, 70, who retired as assistant administrator of REA last September, died July 28 in a Bethesda, Md., hospital. He had been ill for several months.

Mr. O'Shaughnessy joined the REA staff in 1937, became chief of the Electric Engineering Division in 1946, and chief of REA's Telephone Engineering Division in 1953. Later that year, he was named assistant administrator in charge of the agency's telephone program, the position from which he retired last year.

In 1954, he received the U. S. Department of Agriculture's Distinguished Service Award for "outstanding service to agriculture and rural life by making electric service available to many additional farms through significant economies in constructing rural electric lines," and for "outstanding skill in public administration."

Mr. O'Shaughnessy is survived by his widow, Frances, of 4816 Montgomery Lane, Bethesda, a son and daughter, and six grandchildren.



# What's New in Telephone Engineering?

## Transistorized Carrier

*RURAL LINES talks about one of the latest developments in the carrier field with Joseph M. Flanigan, REA's carrier engineer since 1952. A graduate electrical engineer from the University of Pittsburgh, Mr. Flanigan is concerned with the design, installation, and performance of new types of carrier equipment used in borrowers' systems.*

**Q** Mr. Flanagan, we understand that REA is currently conducting field trials of transistorized carrier. What is it?

A Transistors are miniature amplifying devices which are being used instead of vacuum tubes in a variety of electronic products, such as pocket-sized radios and hearing aids. We have been testing subscriber carrier equipment in which transistors have completely replaced the tubes in central office and subscriber terminals. Like the vacuum tube models, transistorized carrier enables us to superimpose additional message units on a pair of wires without disturbing any of the messages already being carried over the basic circuit.

**Q** Where was the trial equipment installed?

A The equipment of one manufacturer was installed in July 1957 in the system of the Merchants and Farmers Telephone Co., in Montpelier, Va. We se-

lected this site because it was close enough to Washington to allow us to keep tabs on the equipment. Besides, the system is in a relatively warm area, with frequent and severe thunderstorms, and we were anxious to see how the equipment stood up under heat, moisture, and lightning.

**Q** How is the carrier being used in Montpelier?

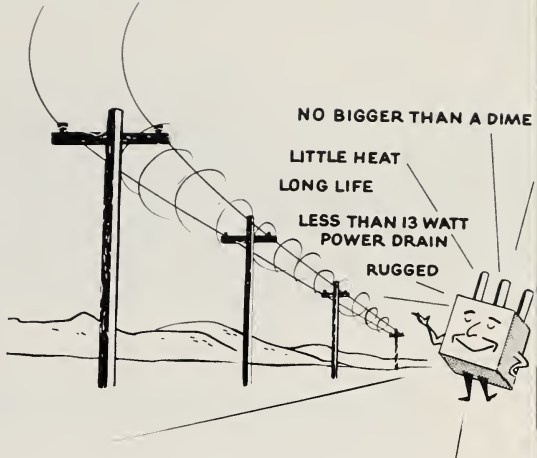
A Two of the five channels installed there enable Merchants and Farmers to provide individual line service to a new mining operation. When the mine was opened, an 8-party line already ran past it, but the mine manager wanted individual line service. As he put it, he wanted to stay off the "cake-baking circuit." Now there was a situation almost tailor-made for carrier. The mine was somewhat speculative, and Richard Eyler, the telephone company manager, estimated that it would cost from \$2500 to \$3000 to build more lines to the area. Of course, the lines would be idle if the mine failed to pan out. In this case, carrier cost less than new line construction, and it can be moved to perform another job if the mine doesn't pay. The other carrier channels at Montpelier are being used to provide multiparty service to areas which have grown faster than expected and to provide a contractor with individual line service.

**Q** Are there any particular advantages to using transistors in this carrier equipment?

A There appear to be. Transistors are smaller than vacuum tubes, which means carrier terminals can be reduced in size. They don't have to be replaced as often



(we hope), and you don't have to heat filaments to make them work. Vacuum tube carrier terminals use up to 50 watts at the subscriber end, compared with 13 watts or less for transistorized units. At central office terminals, vacuum tube types also take up to 50 watts, while transistorized types use only about 3 watts from the central office battery.



**Q Does this amount to much of a saving?**

**A** Yes. Since carrier terminals are running night and day, the lower power drain of transistorized carrier will aid in reducing the power cost portion of the annual charges. As for replacement parts, we know that the trial has been going on for more than a year, and Eyler hasn't had to replace any transistors as yet. If the equipment used vacuum tubes, he'd probably have been forced to replace some of them by now. Vacuum tube replacement costs have also contributed significantly to annual charges on carrier equipment.

**Q It sounds as if the field trial is a success.**

**A** So far, it is. The lightning protectors appear to be adequate, and Eyler claims that nothing has gone wrong during the first year. In fact, he plans to order several additional channels.

**Q How about the initial cost of transistorized units? Aren't transistors still pretty expensive?**

**A** Transistors were very expensive at first, but the cost of making them has been coming down each year, and that trend should continue. Right now, the cost of a completely transistorized carrier channel—one with selec-

tive ringing—runs slightly more than some comparable vacuum tube equipment. I wouldn't be surprised if that gap closed within a few years, however. If that happens—and the lower power drain and replacement costs bring down annual charges—transistorized carrier may turn out to be a good bet.

**Q Are any other trials under way?**

**A** Yes, the transistorized equipment of a second manufacturer has just been installed in the system of another REA borrower, the Farmers' Mutual Telephone System of Shenandoah County, in Edinburg, Va. This particular model has a built-in standby power source. In case of power failure, the subscribers will still have telephone service.

**Q What is your estimate of the future for carrier?**

**A** There's little question but that our borrowers are going to make more and more use of it. As more rural people request individual line service, and as service is extended into more sparse areas and more areas experience unexpected growth, borrowers will put in more carrier. In future years, a large share of this carrier will be transistorized.



# Tennessee Rescue Party

**T**ELEPHONE folks in Tennessee feel pretty good—and rightly so—about a kind of barn-raising party they put on a few weeks back.

And the folks of Loretto, close to the Alabama border where the party took place, will be talking for some time about the sudden change in their telephone fortunes.

Prospects for immediate use of the new dial plant of the Loretto Telephone Co., then nearing completion, turned dark in May when Ralph Passarella, president and manager, had to be hospitalized. Doctors foresaw a slow recovery. That put another heavy responsibility on his wife, Louise, who had seven young responsibilities at home.

This was the situation in a nutshell. The Loretto Telephone Co. had received an REA loan in late 1956 to bring service for the first time to 881 rural families and improved service to 343 existing subscribers through new exchanges at Leoma and Loretto. Leoma was cut over on May 24, and Loretto construction was on schedule. Husky Ralph Passarella, a human dynamo, planned to handle the complex job of changing over the present subscriber dial stations to the new

system with his own force. The job could be done in 35 to 40 working days, but much time was lost before it became apparent that outside help would be needed.

The first hope for Mrs. Passarella was to hire the outside plant contractor to do the job. Prior commitments made this impossible.

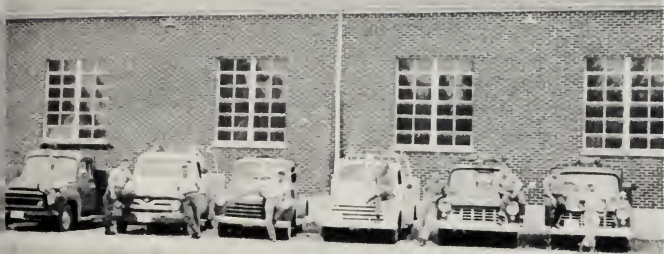
About this time word of the Loretto situation flashed over the intangible network that ties small isolated telephone systems together and serves the fraternity of telephone men and women.

Someone remembered that telephone man Jake Carter had returned to Millington after resigning a new job in California because he couldn't locate suitable housing for his family. So Jake was hired, with REA blessing, as coordinator.

W. S. 'Babe' Howard, his brother-in-law and manager of the REA-financed Millington Telephone Company, agreed to send a crew of two men and recruit three more from other REA borrowers in Tennessee.

"All that I called were very cooperative," Babe Howard recalled later. "For a few it would have been inconvenient because of men off on vacation or work under way. All that the others wanted





Shown here on the school grounds is the force that helped Loretto cut over on time. The telephone systems, number of trucks and names of men sent are: Parsons Tel. Co., 1, Dave Odle, Mgr., Jack Rushing, David Odle; Halls Tel. Co., 1, Ross

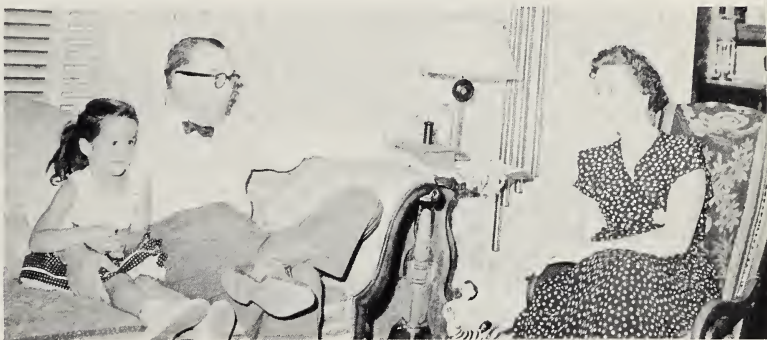
McCloud; Adamsville Tel. Co., 1, Page Smith; West Tenn. Tel. Co., 1, Buddy Jewell, Billy Summers; North Central Tel. Co-op, 1, I. M. Cothron; Friendship Tel. Co., Bobby Jack Agee; Twin Lakes Tel. Cooperative Corp., 4, Sam Anderson, Mgr., Wayne Swann, James Asberry, David Montgomery; Millington Tel. Co., Inc., 2, W. S. Howard, Mgr., J. C. Carter, Bob Stewart, Franklin Smith; Bledsoe Tel. Co-op., 1, Blake Roberson; Yorkville Mutual Tel. Co., 1, Glenn Allmon; Ben Lomand; Rural Tel. Co-op., 1, Gene Russell, Ronald Maynard; Loretto Tel. Co., 2 (only 1 shown), Bruce Alsop, Phillip Rigling, Tony Passarella; DeKalb Tel. Co-op., 2, Clyde Basham, Lonnie Haley; Highland Tel. Co-op, 1, Jack Skimmyhorn, James Beets; Tellico Tel. Co., 1, Blake Young, Carl Lester.

to know was *when* and *where*." Good neighbor Bell offered assistance.

No one would have guessed the

extent of the spontaneous response to this call for neighborly help. Trucks began rolling into Loretto Sunday afternoon, July 6,

Mrs. Louise Passarella visits with R. P. Gibbs, who is on staff of Tennessee Public Service Commission. Tanya, left, and her twin are youngest of seven Passarella children.



Jake Carter and Bob Stewart check staking sheets before turning them over to crew which will make conversions.







Bob Stewart has to be "all ears and hands" to keep pace with test calls coming in from 12 different crews.

with one or two men aboard. They came from as far away as Tellico Plains, 250 miles east of Loretto.

By Monday night motel and tourist home owners had dusted off their "no vacancy" signs, little used since the winter rush to Florida. Sixteen of the 20 telephone borrowers in Tennessee were represented on the force of 30 men at work Tuesday, July 8, when RURAL LINES visited Loretto. A "wheel count" showed 17 trucks, a station wagon and a light plane used in this friendly invasion. Sam Anderson, manager of the Twin Lakes Telephone Cooperative at Gainesville, was there with three other employees and four co-op vehicles.

Jake Carter was fully ready to use this willing, able force in a quick cleanup campaign. Work orders had been prepared and assembled into sets with corresponding work sheets. All that was necessary Monday was to form two-man teams as the men appeared, give them the necessary supplies and work orders and send them down the road.

In most cases one of the two men would work from the protector out to the pole while the

other was working inside the house. Where a new drop was required, both men would install it, then work individually on other steps to bring the installation up to REA standards. These included putting a carbon block on the arrester or installing a new one, setting a new ground rod (the old system used bridged ringing), and changing the service drop from the old line to the new. Inside the home, the telephone set was changed over to 3-wire ringing, and a new ringer installed to conform to the subscriber's new 2-letter, 5-digit number. The men also handled any new services or relocations called for on the work orders.

That was the tangible job. More important perhaps was the responsibility for maintaining good public relations for the Loretto Telephone Co. and Passarella. You could sense the attention the men were giving to this part of the job. Certainly they created good will everywhere they went.

Specialization helped to speed the job. Bob Stewart, plant superintendent at Millington, stationed himself alongside the new main frame (see photo) and handled all the test calls from the

**Bobby Jack Agee starts hole for ground rod. His partner Franklin Smith is inside building.**



outside crews. Two men spent their time installing ringers in new '500' sets, checking the instruments out and rehabilitating sets brought in by the crews.

The old dial system chose this time to get temperamental. Jake Carter, Bob Stewart and REA's central office engineer, John Cox, worked past midnight Monday to restore and maintain ringing current. After contending with the cranky old ringing machine all day Tuesday they hooked up the a-c ringing equipment for the new switchboard and gambled against a power failure.

Despite strange and muddy roads, the volunteer crews made 243 conversions in 2½ days so

that the changeover was virtually complete when they went home Wednesday. But before they left, the grateful Passarellas arranged a typical Tennessee fish fry for the whole gang.

As R. P. Gibbs, staff member of the Tennessee Public Service Commission, put it, "This has been a good thing for everyone involved. Over and above the fine, human tradition of helping a neighbor in a time of need, it shows the strength and vitality of the small, independent telephone organizations today. And I believe the people of Loretto must be impressed with the effort that was made to bring them modern telephone service."

## **REA Telephone Loans Top \$89 Million in Fiscal 1958**

**R**EA telephone loans approved during fiscal 1958, which ended June 30, reached a new annual high of \$89.2 million.

A total of 216 loans went to 204 rural telephone systems—including 66 new borrowers—in 39 States and Alaska, bringing the total number of borrowers to 608.

The loans approved last year will eventually provide new or improved service to 170,462 rural subscribers.

States in which 10 or more

borrowers received REA loans included Missouri and Texas, with 14 each; Georgia, with 13; Kansas and Tennessee, 12; Iowa and Minnesota, 11; and Illinois, Oklahoma, and Pennsylvania, 10.

States in which total loans in 1958 came to more than \$5 million were Missouri, in which borrowers received \$7,211,000; Oklahoma, with \$7,177,000; Pennsylvania, with \$7,159,000; California, \$6,581,000, and Tennessee, \$5,369,000.



## Telephones . . . A Necessity

The Yadkin Valley Telephone Membership Corporation has a slogan: "Owned By Those It Serves." This means that the people using the telephone service offered by the co-op, own it.

This co-op was formed several years ago when the need for telephone service in the rural areas of Davie, Yadkin, and Iredell Counties became great. Since it has been in operation, it has done much to promote unity and progress for the areas it served.

Take Davie County for example. Look back only a few years and you will find Mocksville and Cooleemee with the only fire departments in the county. Today there are seven or eight in operation. The operation of these fire departments can be attributed directly to the rural telephone systems, for without such a communications system a fire department is of no value.

Not many years ago a rural resident measured distance from emergency medical care in terms of miles. Today with the telephone it is measured in terms of minutes.

Formerly a breakdown of a tractor or other farm machinery necessitated the loss of many hours from work as a needed part was sought. Without a telephone, travel was required into town only to find that such a part was not available. From there it was travel from first one place to another. Today, with a telephone, all this becomes unnecessary.

Today we have a hospital, and regardless where one lives . . . it is nearer to each of us because of the telephone.

Today we have a consolidated school, attended by children from all over the county. Although in miles the children

may be further from home, because of the telephone they are nearer should any emergency arise.

However, even with the importance of the above telephone uses, perhaps the most value derived from a telephone is through the social contacts with friends and neighbors. With little or no effort friends can be invited . . . picnics and parties can be arranged . . . and the latest news and community gossip enjoyed.

The more people that have telephones . . . the more valuable a telephone becomes to each and everyone. Each telephone line running into a house becomes a cord that connects with untold opportunities, services and pleasures.

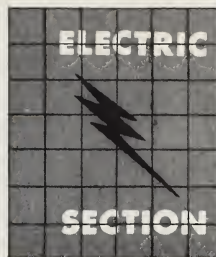
The Yadkin Valley Telephone Membership Corporation is now in the middle of a program to provide service to every home and business in rural Davie County where telephone service is feasible. They have a representative now at work in this county contacting prospective subscribers and giving information about the service.

Increasing the telephone service should not be the problem of the co-op alone. Each and every person that uses a telephone has a stake in this increased service. It is to the benefit of all, including those who now have telephones, to see that telephones go into other homes and businesses. Each time one is added, our benefits increase.

For those who do not have telephones, John M. Reece, the representative of the co-op, will endeavor to explain the advantages and offer them the opportunity. We are sure he will succeed in the majority of instances in selling the telephone idea. At one point in our history the telephone may have been considered a luxury. However, in the light of today . . . **It Is a Necessity.**

Good press relations includes keeping local editors posted on your future plans, the use of astute news judgment in supplying them with releases, and observing their deadlines and mechanical limitations. The result may be an unexpected dividend, like this classic editorial on rural telephony in the Davie County (N. Car.) Enterprise-Record, a weekly in the service area of the Yadkin Valley Telephone Membership Corporation, Yadkinville.





A cooperative co-op member allowed Oconto Electric to take lines through his farm (in rear) to serve the barn cleaner assembly plant.

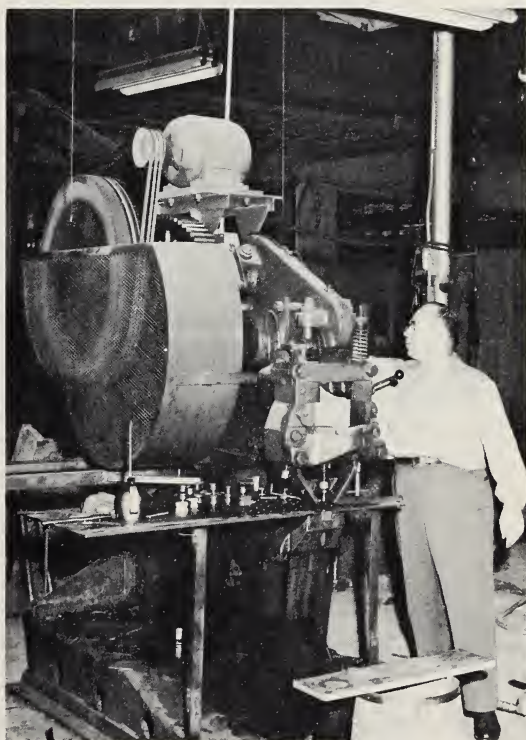
## He's Building Daytime Load

**A Wisconsin co-op manager seeks rural factories to help him provide better service to farm consumers.**

**T**HRIVING rural industries, including a pair of remarkable home grown factories and a meat packer who wants company, are helping an enterprising Wisconsin cooperative to lift its daytime load to within shooting distance of its evening peak.

It isn't just blind luck that has enabled the Oconto Electric Cooperative, at Oconto Falls, to serve these 8-to-5 power users. Manager Laurence Garbrecht knows that rural industry represents one of the surest ways to fill those uneconomic valleys that occur during the daytime, when co-op lines carry but a small part of the load they were built to handle. With the backing of his board of directors, Garbrecht scouts two States for companies that want to expand or relocate, and when local businessmen need expert help or three-phase power, Garbrecht is ready to supply both in a hurry.

"It's one of the facts of life of



Inventor Paul Patz shows off one of the machines that helps raise his monthly kwh consumption as high as 14,000.



**Old welding shop at far right was expanded until Graetz factory covered most of the original farm.**

the rural utility business," he explains, "that a well rounded load is essential to the provision of quality service to farmers."

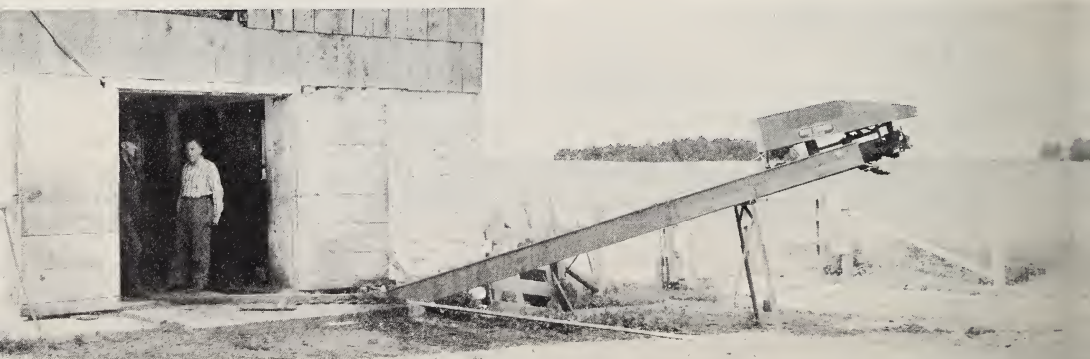
The biggest industry in Oconto Electric's service area was born when a local dairy farmer, Paul Patz, decided in 1948 that he could build a better barn cleaner. Using the construction facilities of Clarence Graetz, a friend who operated a small welding shop on his farm, Patz built several cleaners and obtained a patent on a chain link, an integral part of the machine.

By 1951, the cleaner looked so promising that Patz bought a couple of acres on Wisconsin

Highway 141 and put up an assembly and distribution plant. Garbrecht moved fast to add the factory to his list of consumers, offering free aid in electrical planning, but his big break came when a friendly farmer in back of the Patz plant offered to let a three-phase line go through his property to serve the new industry. Garbrecht promptly installed a 75 kva, 220-volt transformer bank to serve the new factory.

Meanwhile, Graetz and his two sons were expanding their welding shop to handle manufacturing for Patz. Within a few years, a row of steel buildings has sprung up in their fields, dwarfing the

**Barn cleaners mean a double load for the Wisconsin co-op, as it serves both men who make them and men who use them.**



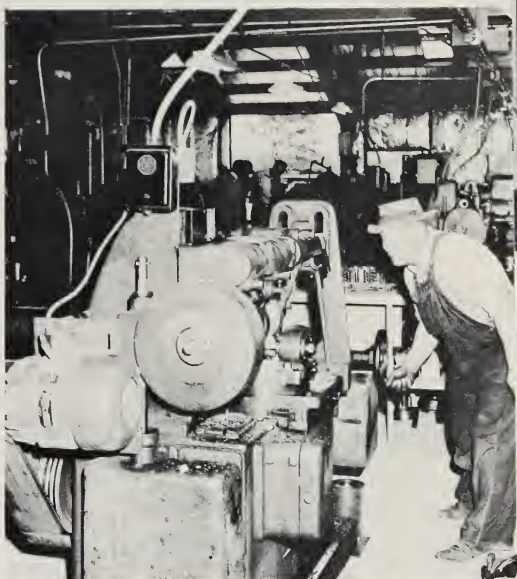


original headquarters. Oconto Electric serves the Graetz plant, too, through one 500 kva, 440-volt bank and one 300 kva, 220-volt bank.

As the barn cleaner business grew—Patz says current sales exceed \$2 million annually—the dairyman-turned-inventor had no reason to regret his decision to remain in the rural area north of Green Bay.

“Here in the farming country,” Patz reports, “I can have more room for less money, I have a good dependable labor supply (half of his 35 full-time employees also are farmers), and reliable electric service. I can tell you that I’m happy to be on the REA lines. I enjoy all the conveniences of the city—and none of the headaches.”

Thanks to electricity, a few men can produce a lot of work at the mechanized Graetz plant.



Packer Wencel Murphy will give 5 acres of adjacent land to businessman who will join him at Stiles Junction.

The co-op also is glad that Patz and Graetz decided to stick around. Assembler Patz uses from 8,000 to 14,000 kwh a month, paying an electric bill that runs from \$150 to \$200. Manufacturer Graetz uses 28,000 kwh a month, and during the winter sometimes uses as much as 40,000. His monthly bill averages \$1,500.

Their combined load—demanded during the slack daytime hours of 7:30 a.m. to 5:30 p.m.—totals about 250 kw.

“We want to build our daytime load even more,” explains Manager Garbrecht. “I watch the Chicago and Milwaukee papers for notices of plants that are looking for a new site, and the board





**Murphy (in foreground) and helper move 450-pound hog from scalding tank to electric dehairing machine.**



**Electricity enables Anderson family to make more profit on timber holdings by operating their own sawmill.**

**A balanced load, with rural industries filling daytime valleys, means that this dairy farm will receive better service at lower cost.**

has voted me money to go down and talk with several prospects. I also work through local civic clubs and businessmen's associations that keep feelers out."

Largely as a result of Garbrecht's sales efforts, a meat packer decided to build his plant in Stiles Junction, a village served by Oconto Electric. The packer, Wencel Murphy, bought more land than he really needed, and he is ready now to give five acres of it to any other businessman who wants to build next-door to him. For its part, the town board of Stiles Junction, of which Co-op President John E. Magnin is a member, has decided not to levy local taxes for 5 years on the company that snaps up Murphy's offer.

Aided by canny Power Use Adviser Gaius Nichols, Garbrecht also is providing electric service to a couple of mink ranches and to a busy sawmill, which is going to be in the market for three-phase service soon. Negotiations are under way for still another factory in the area.

"We've just begun on this job," concludes Garbrecht. "We still have a sharp evening peak, when farm families turn on their lights and the TV and the radio and the range, and the peak is even sharper in dark months like December. We'll be busy trying to round out our load for some years to come."



# A LOOK at RURAL G & T

by M. A. Chase

Assistant Chief (Generation)

REA Electric Engineering Division

## PART 2

**T**HE relatively small volume handled by rural generation or transmission facilities—as well as other disadvantages inherent in small G&T systems—has contributed to a trend toward interconnection with other systems and to special arrangements, such

as interchange and interconnection.

The simplest type of arrangement involves the interconnection of a rural system with that of a neighboring utility system. Service reliability is improved as a result, and it also becomes possible to use common standby equipment, thereby reducing the investment needed to assure continuity of generation.

In a number of cases, interconnections also are used for power exchange and power sales. In such arrangements, each of the parties designs and constructs its own system for its own needs and, except for standby and the investment in interconnecting facilities, each makes the same investment as it would if no interconnection were effected.

The Cornbelt Power Cooperative of Iowa extended its interchange arrangement with a power company to permit the installation of larger generation units than would normally be justified. This was done by arranging for each of the systems alternately to install generating units having the capacity to take care of short-term needs of both systems. They both obtained the advantages of lower investment cost per kw and of better fuel efficiency.

Another Iowa cooperative—Eastern Iowa Light and Power—recently worked out an interconnection arrangement with the City of Muscatine, combining the advantages of larger size units and the sharing of standby.

The advantages of larger units also have been obtained by cooperatives by purchasing increasing quantities of power until the co-op can justify a larger unit. With such an arrangement, other

advantages may accrue. The Alabama Electric Cooperative, for example, has followed this practice in order to baseload its own steam generation and to make the best use of its hydro facilities.

A number of rural G&T systems have worked out arrangements involving the leasing of facilities or operating agreements, which were part of their system plans from the beginning. The facilities were designed and built after these arrangements were worked out.

The recent loan to the Sunflower Cooperative of Kansas, for instance, covers the construction of a steam unit large enough to serve the needs of its members. The unit will be operated on a long-term basis by the Central Kansas Power Company, which will pay a rental sufficient to repay the REA loan and in turn will supply and deliver to the rural load centers a specified quantity of power at a lower rate than was previously available.

The first of the important interconnection arrangements was worked out in Iowa over 10 years ago by the Central Iowa Power Cooperative and the Iowa Electric Light and Power Company. The cooperative built a generating plant and a transmission system designed to operate as an integral part of the joint system. Under the operating agreement, the cooperative pays an agreed rate for production costs and a fixed amount for the operation and maintenance of its transmission facilities. The utility, in turn, delivers specified quantities of power over the joint transmission system to the rural load centers. The co-op pays fixed charges on its facilities.

In Missouri and Oklahoma, rural G & T systems worked out arrangements with the Southwest Power Administration which originally involved leasing of transmission facilities. The lines served to interconnect the SPA system with REA-financed steam plants to deliver power to the rural load centers of the member cooperatives. By operating the facilities on an integrated basis, all of the advantages of interconnection were obtained.

In this case, the utilization of the steam plants for base load operation and of the hydro plants for peaking operations provided additional economies.

The initial arrangements have since been modified so that the rural systems operate the transmission facilities as well as the generating plants, making transmission capacity available to SPA at agreed costs. The arrangements for the interchange of power also have been changed, without modifying the inherent advantages of the interconnection.

Other types of special arrangements made by REA cooperatives involve other power companies, the Bureau of Reclamation of the Department of the Interior, the South Carolina Public Service Authority, and many municipal systems. Although the mutual advantages of interconnection and interchange are embodied in all of these arrangements, the methods employed and the degree of integration vary considerably. This is because each arrangement is designed to meet a particular need in a particular area. (*This is the second of two articles by Mr. Chase.*)



# POWER USE EXCHANGE



**CRAZY?**—"No! We're not crazy. You can get a \$134.95 water heater for only \$29.95." So ran the headline announcing a new promotion in the May issue of Irwin County Cooperative News, published by Irwin County EMC, Ocilla, Ga. Co-op members can take advantage of this offer "for a limited time" by purchasing any major appliance from local dealers. For an additional \$29.95, the purchaser of a major appliance gets a table-top, quick-recovery, 40-gallon electric water heater, with a 10-year guarantee on the tank. In July, the Co-op made an alternative offer of 3 months free electricity with generous kwh allowances as follows: dishwasher—100, clothes dryer—100, washer—50, ironer—75, range—150, food freezer—100, refrigerator—50, water heater—250, room air conditioner—100, water pump—100.

**SOMETHING DIFFERENT**—In the swing to giving appliances as purchase bonuses, Codington-Clark Electric Cooperative, Watertown, S. Dak., offered free installation and a choice of these unusual items in its May-June range promotion: 24-cup party percolator, 6 1/2-inch power saw, electric griddle, or a 1/2-inch power drill. Twelve dealers participated in the promotion to get

members to replace fuel-burning ranges with electric ones.

**GENERAL FUNDS LOANS**—President Leonard McMahon, Nodak Rural Electric Cooperative, Grand Forks, N. Dak., reported appliance financing facts to fellow owners of Nodak in the June issue of The Nodak Neighbor: "The Board passed a ruling a few years back (in 1954) that we should loan some of our depreciation reserve funds to our members and employees for up to 5 years at 4 percent interest on the unpaid balance for the purpose of buying electrical appliances or putting in running water and sewage disposal systems. To date, over \$366,000 has been loaned under this electrical use promotional program. This loan fund has reached a revolving status, with the present outstanding balance being approximately \$192,000. The program has raised our consumption of kwh by quite a few thousand per month."

**REPLACEMENT BONUS**—If the major appliance purchased from a dealer is a replacement, the bonus is an electric blanket in a 1958 campaign being conducted by P. K. M. Electric Cooperative, Warren, Minn.



Report #3 on S.U.S.

## Easy Answers to Hard Questions

*A Michigan cooperative finds original and constructive solutions to several sales and service problems which stump some rural utilities.*

**H**OW can you get more dealers to service appliances in rural homes? What can you do to keep local repairmen up-to-date on the latest servicing techniques? How can a co-op help to introduce unfamiliar appliances to its members? Under what conditions—if any—can a co-op merchandise without hurting relations with local dealers?

The Presque Isle Electric Cooperative, which serves more than 10,000 members in the northeastern part of Lower Mich-

igan, embodies answers to all these questions in its well-rounded power use program.

While it doesn't repair appliances itself, it manages to help train men who can; while it works closely with local appliance dealers, it occasionally tries a little short-term merchandising of its own—and dealers like it.

Manager William G. Reutter, learning that some consumers were having difficulty in getting quality service for electric appliances, attacked the problem in

Presque Isle's "brain trust" selects appliances for its summer S.U.S. drive. Deliberating are (left to right): Power Use Adviser Raymond Beauregard, Assistant Manager Harry Pauly, Manager William Reutter, and Office Manager Clayton Smith.





three ways. Last February, he held the first of a series of one-day service schools for any dealer or repairman who wanted to brush up on the latest servicing techniques.

The class was conducted at co-op headquarters in Onaway by a service specialist for one of the major washer-dryer manufacturers.

"We were curious to know whether there would be any interest," recalls Reutter.

There was plenty. Twenty-two men attended the first school, some of them traveling 75 or 100 miles to the small Michigan town. Since then, Presque Isle has held three more schools—one on water heaters, a second one on washers and dryers, and one on ranges.

"The range school was very popular," reports Assistant Manager Harry Pauly. "The instructors cooked dinner for the students."

At the last school, attendance swelled to 25, and 29 men have indicated they will attend the next session, which will cover farm and home water systems.

As the second step, Reutter and Power Use Adviser Raymond Beauregard used the schools to get better acquainted with dealers. They talked with each dealer about servicing appliances in rural areas, and soon had an imposing list of repairmen pledged to do the work.

Finally, the co-op ran a list of all servicemen who attended the schools in its monthly magazine, *More Power to You*, and published in each subsequent issue the names and addresses of all dealers willing to tackle rural repairs. As a result, repairmen have gained skill, dealers have grown

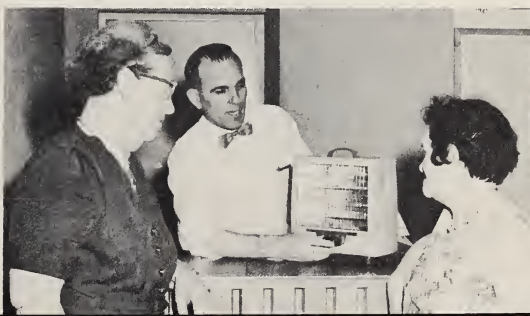


Onaway insurance agent Ed T. Burns listens as student salesman Ronald R. Milligan describes the virtues of an electric frypan. During the drive, 11-inch models went for \$17.95 cash; 12-inch for \$20.36. Portable heaters, with blower and thermostat, sold for \$16.95.

conscious of the value of rural business, and consumers know which dealers are willing to serve them.

Reutter also has found that an occasional merchandising program, held for promotional purposes only, can actually improve co-op relations with dealers. Presque Isle made its first excursion into sales last year, when it offered members a 52-gallon electric water heater for \$92.95 cash, or \$99.95 on time. In 1957, the co-op sold 120 heaters, but dealers sold 140 during the same period—a new high for them.

Harry Pauly tells a couple of members how to work the heater. Sales in co-op office were credited to an individual salesman's account if the purchaser presented a salesman's card. Otherwise, the commission went into a kitty, which was split four ways among the students on Sept. 1. This created an incentive for the boys to work the agreed period.





In response to the Stepped-up Sales appeal, the co-op tried another merchandising campaign during July and August of this year, selecting electric frypans and portable heaters for the drive. As in the water heater campaign, dealers were notified in advance of the co-op's plans.

Reutter tossed the campaign in the lap of Assistant Manager Pauly, who got bids from six wholesalers, selected the low one, and ordered 200 heaters, 400 11-inch frypans, and 50 12-inch ones.

To introduce the appliances to members, he hired four college boys and gave them each a quarter of the service area to cover. The boys were briefed by factory representatives and started to work on July 7, knocking on each member's door.

The remuneration plan included \$80 a week, out of which each boy paid his traveling expenses, plus a \$2.50 commission on each frypan or heater sold. As an extra incentive, the commission was increased to \$3.50 per unit after a boy had sold 200 appliances; \$3.75 on sales from 226 to 250; \$4.00 from 251-275; \$4.25 from 276-300, and \$4.50 on all sales over 300.

Pauly also furnished each student salesman with 100-watt bulbs to use as "door openers."

The drive was a resounding success. By mid-August, the young doorbell-pushers had moved 282 heaters, 106 11-inch frypans, and 70 12-inch pans, and they still had a couple of weeks to go.

"Like the water heater drive," says Pauly, "this small appliance campaign should mean more future sales for dealers. We've opened up the market for them."

## Two Electrification Meetings Set for October

**O**CTOBER is meeting month for both power use specialists and rural electrification engineers.

The 5th annual National Power Use Conference, to be held in Buffalo, N. Y. from Oct. 5-7, is expected to draw hundreds of managers and advisers from rural electric systems all over the Nation. This year's emphasis on electric house heating—to be covered in talks, symposiums, and exhibits—should make the Conference one of the most vital and important held so far.

Later in the month, the American Institute of Electrical Engineers will hold its 4th annual Farm Electrification Conference. The place is New Orleans, La., and the dates are Oct. 20-22.

Speakers at this meeting will include representatives of electric utilities, equipment manufacturers, rural electrification groups, and other leaders in the farm electrification field.

This year's program has been arranged to appeal to utility engineers, electrification advisers, system managers, and equipment manufacturers. Conference papers will be presented on research, adequate wiring, electric heating and air conditioning, handling and drying of farm produce, and the application of equipment to rural systems. On the afternoon of Oct. 21, conferees will tour nearby industrial and equipment manufacturing plants.

## Mississippi Co-op Makes Its Final REA Loan Payment



(Photo by Ben Johnson, Mississippi Rural Electric News)

**P**AUL T. JONES (left), president of the board of the Alcorn County Electric Power Association, Corinth, Miss., receives his co-op's paid note and releases from James Black, REA operations field representative. Alcorn, the oldest farmer-owned electric system in the TVA area, went into business in 1934 with TVA financing. Later, it borrowed \$570,000 from REA, of which \$364,805 was advanced. This summer, it had paid back all of the principal, along with \$44,236 in interest. In addition, Alcorn has made payments and refunds to members of \$181,319.

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## Electric Loans Total \$241.6 Million in Fiscal 1958

**A** TOTAL of 141,735 rural consumers will receive initial central station electric service as a result of loans totaling \$241.6 million approved by REA during fiscal 1958, which ended June 30.

In addition, the loans will benefit thousands of other consumers already on the lines by providing improved service.

These are other highlights of the 1958 loan program—

- A total of 337 loans were made to 310 systems in 43 states, Alaska, and Puerto Rico. REA now has 985 active electric borrowers, largely farmer-owned co-operatives.

- An estimated 65 percent of the electrification loans will be

used to “heavy up” facilities and to provide additional power supplies. More than 170,000 kw of new generating capacity is called for in the loans.

- While debt repayment obligations are increasing sharply—rising from \$52 million in 1952 to \$114 million in 1958—the rural systems not only are making payments on time, but have paid \$129 million in advance.

- Consumer-members of rural systems now have an equity amounting to about 15 percent of their assets—nearly double the ownership of 5 years ago.

- Power sales continue to increase at the rate of about 14 percent a year.

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